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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/625,893	07/26/2000	Donald Wayne Allen	TH1258 (US)	8026

7590 12/02/2003

Mark A Smith
c/o Shell Oil Company
Intellectual Property
PO Box 2463
Houston, TX 77252-2463

EXAMINER

MITCHELL, KATHERINE W

ART UNIT	PAPER NUMBER
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3677

DATE MAILED: 12/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/625,893

Applicant(s)

ALLEN ET AL.

Examiner

Katherine W Mitchell

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8/19/2003 decided 11/12/2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 13 February 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) ☐ Other: _____

DETAILED ACTION

Administrative Matters

Applicant filed a Petition for Certificate of Correction under 37 CFR 1.323 (Applicant's Mistake) which is unclear. A call to Mr. Montalvo on 9/11/03 instructed the USPTO to ignore the paper. Examiner notes that the Certificate refers to an error on an application recorded on Reel 013550, Frame 0781, with an assignment filed on 7/25/2000. It does not appear that this refers to this pending application.

Claim Objections

1. Claim 3 was objected to in the office action mailed 2/11/2003 because of a "cut and paste" error in line 2 of the claim. Applicant has corrected the claim, but the listing of the claims does not indicate that the claim is currently amended. Examiner will examine the claim, but reminds applicant for the future that the new rules require a complete listing of all claims including *current* status because of the scanning and electronic printing system.

Claim Rejections – 35 U.S.C. 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as obvious over Allen and Hennings's paper, *Vortex-Induced Vibration Tests of a Flexible Smooth Cylinder at Supercritical Reynolds Numbers*, May 1997, hereafter called the Allen et al. paper.

Re claims 1 and 4: The Allen et al. paper teaches on page 681, col 1, 2nd - 4th full paragraphs a method and system for controlling drag and vortex induced vibration, consisting of providing an ultra-smooth surface about the cylinder element of ABS® or PVC plastic with a surface roughness of k/D between 8.86×10^{-5} to 1.51×10^{-4} .

Applicant claims substantially cylindrical element with an exterior surface that has a K/D value of about 1×10^{-4} or less, which 8.86×10^{-5} clearly meets. Note that page 683 "Stationary Cylinder Results" states "the differences between present data and data from most of the included resources in Figure 4 are probably related to surface roughness, as is consistent in ...from Shih et al (1992)." Page 684 concludes that tests using the cylinder elements of said k/D range resulted in determining that surface roughness had an important effect on drag and VIV response of circular cylinders. The apparatus is inherently taught by the method.

4. Claims 2-3 and 5-6 are rejected under 35 U.S.C. 103(a) as obvious over the Allen et al. paper in view of Gregory, US Patent 4470722.

Re claims 2 and 5: As discussed above, the Allen et al paper teaches all the elements except that the ultra-smooth surface can be a coating. Gregory teaches in column 4 lines 59-65 a cylindrical housing element for use with a marine production facility that has an exterior coating of fiberglass or plastic. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to

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have modified the Allen et al. paper to include or provide smooth surfaces of 1×10^{-4} or less, including 8.86×10^{-5} or less as taught in the Allen et al. paper, as a coating on a substantially cylindrical element, as taught by Gregory, in order to minimize the additional costs and labor required in obtaining an ultra-smooth surface. The method is inherently taught by the apparatus as shown installed.

Re claims 3 and 6: As discussed above, the Allen et al paper teaches all the elements except that the ultra-smooth surface can be a sleeve. A sleeve is an obvious variant of a coating or cylindrical surface. Examiner notes that Gregory teaches in col 2 lines 15-23 that fairings (sleeves) are commonly known to suppress VIV of a single riser. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the Allen et al. paper to include or provide smooth surfaces of 1×10^{-4} or less, including 8.86×10^{-5} or less as taught in the Allen et al. paper, as a sleeve on a substantially cylindrical element, as taught by Gregory, in order to minimize the additional costs and labor required in obtaining an ultra-smooth surface. The method is inherently taught by the apparatus as shown installed.

Response to Arguments

5. Applicant's arguments filed 19 Aug 2003 have been fully considered but they are not persuasive. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., that the cylindrical element is not a strongback or does not include an inserted strongback or support) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are

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not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Examiner notes that applicant has used the narrower phrase "consisting of" rather than --comprising--. A claim with a structure or method "consisting of" cannot include additional structure or steps. (*in re Gray* 53 F.2d 520, 11 USPQ (CCPA 1931); *Ex parte Davis*, 80 USPQ 448, 450 (Bd App. 1948) Examiner believes that "a substantially cylindrical marine element" or "a substantially cylindrical element" is broad enough to include cylindrical elements with both sleeves and coatings about the element and inserts or strongbacks within the element as part of the broad "cylindrical element", as a strongback is a type of cylindrical element, and a sleeve or coating is the ultra smooth surface.

6. Examiner agrees that the Allen paper requires the cylindrical element to be or include a support or strongback to reduce the VIV.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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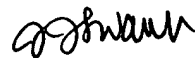
the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katherine W Mitchell whose telephone number is 703-305-6713. The examiner can normally be reached on Tues-Fri 9 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. J. Swann can be reached on 703-306-4115. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-308-8623 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

kwm
November 21, 2003



J. J. SWANN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600